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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/635,961

08/07/2003

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40600-P002US

1228

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01/11/2007

EXAMINER

JASTRZAB, KRISANNE MARIE

ART UNIT

PAPER NUMBER

1744

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/635,961

Applicant(s)

THOMPSON ET AL.

Examiner

Krisanne Jastrzab

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 4, this claim is found to be vague and indefinite because it fails to properly further limit the structure of the claim from which it depends. A source of the heat transfer fluid has not been claimed, and as such it is improper to attempt to further limit the fluid itself in an apparatus claim.

With respect to claim 5, this claim is found to be vague and indefinite because it merely recites method phraseology which fails to properly further limit the apparatus claim from which it depends.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims s 1-8, 11 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luker U.S. patent No. 5,888,453 in view of Byrne U.S. patent No. 4,088,444.

Luker teaches a pasteurization method and apparatus wherein a slurry of biosolid sludge is delivered via a conduit into a heating enclosure where it is heated to a temperature of between 140 °F and 160 °F. The heated slurry is then delivered to a retention tank for retention of the slurry at the elevated temperature for a residence time sufficient to achieve pasteurization. The heating enclosure can be a spiral heat exchanger employing steam as the heat transfer fluid that is delivered from a boiler into a spiral exchange configuration. Luker fails to teach configuration of the system to include achieving the appropriate temperature and providing the structure to achieve the

appropriate residence time within the same enclosure. See column 3, lines 1-20 and the figures.

Byrne teaches a known and expected system to provide sterilizing heat exchange wherein a heating enclosure is provided having means for injecting a heat transfer fluid such as steam therein. The lower section of the enclosure is configured as a sump for collecting the transfer fluid and recycling the fluid after reheating. The enclosure is configured to raise the temperature within to a sterilizing temperature and then maintain that temperature for a time required to achieve sterilization of a product therein. See column 3, line 45 through column 4, line 25.

It would have been obvious to one of ordinary skill in the art to incorporate both the heating and the holding functions of the system of Luker into one enclosure, as taught by Byrne because it would minimize the separate structural components required for treatment as well as minimize the potential for heat loss in transferring the heated slurry to another enclosure for holding.

With respect to claim 2, the use of serpentine construction for the provision of means controlling the residence time of pasteurization products is well known and expected and taught in Luker, such that it would have been obvious to maintain those means within the heated enclosure of the combination above for the delivery and support of the slurry.

With respect to claim 8, it would have been obvious to one of ordinary skill in the art to configure the apparatus to input the slurry into the sump area because it would

provide a pre-heat function which is well recognized in the art as desirable and which is taught in Luker.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luker and Byrne as applied to claims 1-8, 11 and 13-15 above, and further in view of Garrish et al., U.S. patent No. 6,644,566 B1

Garrish et al., teach a known and expected configuration for serpentine heat exchange structure wherein a plurality of conduits is provided, attached to inlet and outlet manifolds. See column 5, lines 3-20.

It would have been obvious to one of ordinary skill in the art to configure the serpentine structure of the combination above in any known and expected configuration, including that of a plurality of conduits attached to inlet and outlet manifolds as recognized in Garrish et al., as state of the art.

Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luker, Byrne and Garrish et al., as applied to claim 9 above, and further in view of Becker et al., U.S. patent No. 4,441,406.

Becker et al., teaches that it is well recognized to construct collection sumps in pasteurization apparatus with non-horizontal structure because the funnel-like structure employs gravity to optimize fluid collection. See Fig. 1.

It would have been obvious to one of ordinary skill in the art to construct the sump of the combination above with a non-horizontal surface as taught in Becker et al., because it would optimize fluid collection.

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Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luker and Byrne as applied to claims 1-8, 11 and 13-15 above, and further in view of Jacob et al., U.S. patent No. 4,925,571.

Jacob et al., teaches the known and expected use of fossil fuel combustion for the provision of the heat exchange fluid for pasteurization of biosolid sludge. The heat source is capable of raising the temperature of the slurry to pasteurization temperatures and can be configured to recycle the methane off-gas produced by the sludge for the fuel for the fuel of the burner. See column 4, lines 15-68.

It would have been obvious to one of ordinary skill in the art to employ combustion means to supply the heat transfer fluid of the combination above because of it's recognized efficacy in pasteurization of biosolids as taught in Jacob et al., and because of the opportunity to recycle the intrinsic off-gas of the pasteurization process.

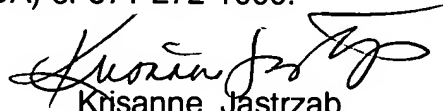
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krisanne Jastrzab whose telephone number is 571-272-1279. The examiner can normally be reached on Mon.-Thurs. 6:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Krisanne Jastrzab", with a stylized flourish at the end.

Krisanne Jastrzab
Primary Examiner
Art Unit 1744

January 8, 2007